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=> FILE REG
FILE 'REGISTRY' ENTERED AT 18:15:05 ON 12 NOV 2010
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     FILE 'HCA' ENTERED AT 17:52:57 ON 12 NOV 2010
L1         41806 S HASEGAWA ?/AU
L2           741 S ISHIO ?/AU
L3          1663 S KAJIKAWA ?/AU
L4         32918 S SAKAMOTO ?/AU
L5         71104 S HAYASHI ?/AU
L6             3 S L1 AND L2 AND L3 AND L4 AND L5
                 SEL L6 1-3 RN

     FILE 'REGISTRY' ENTERED AT 17:53:33 ON 12 NOV 2010
L7            16 S E1-E16
L8        591222 S CU/ELS
L9        597250 S NI/ELS
L10       495252 S CR/ELS
                 E AYS/CI
L11      1040773 S E3
L12       117645 S L8 AND L9 AND L11
L13       209096 S L9 AND L10 AND L11
L14       147017 S L13 NOT L12

     FILE 'HCA' ENTERED AT 17:57:11 ON 12 NOV 2010
L15      148091 S L12
L16      192773 S L14
L17       55833 S BRAZ?
L18         880 S L15 AND L16 AND L17

     FILE 'REGISTRY' ENTERED AT 17:58:38 ON 12 NOV 2010
L19       38766 S 78-100 CU/MAC
L20       18242 S 17-20 NI/MAC
L21         574 S L19 AND L20
L22         104 S L21 AND SI/ELS
L23          89 S L21 AND SN/ELS

     FILE 'HCA' ENTERED AT 17:59:53 ON 12 NOV 2010
L24         133 S L22
L25          78 S L23
L26          10 S L24 AND L17
L27          13 S L25 AND L17
L28        1224 S L21
L29          45 S L28 AND L17
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     FILE 'REGISTRY' ENTERED AT 18:01:00 ON 12 NOV 2010
L30       62301 S L8 AND L9 AND L10
L31         240 S L30 AND 3/ELC.SUB

     FILE 'HCA' ENTERED AT 18:01:26 ON 12 NOV 2010
L32         281 S L31
L33           0 S L29 AND L32

     FILE 'REGISTRY' ENTERED AT 18:05:31 ON 12 NOV 2010
L34         595 S L9 AND L10 AND 2/ELC.SUB

     FILE 'HCA' ENTERED AT 18:09:17 ON 12 NOV 2010
L35       10770 S L34
L36           4 S L29 AND L35

     FILE 'LCA' ENTERED AT 18:10:54 ON 12 NOV 2010
L37        2101 S (INFUS? OR SUFFUS? OR DIFFUS? OR TRANSFUS? OR EFFUS?)/BI,
L38       14816 S (INHIBIT? OR HINDER? OR IMPED? OR ARREST? OR REDUC? OR RE

     FILE 'HCA' ENTERED AT 18:11:43 ON 12 NOV 2010
L39       41887 S L37(2A)L38
L40           2 S L29 AND L39
L41        1154 S ANTI(2A)L37 OR ANTIDIFFUS?
L42           0 S L29 AND L41
L43          22 S L26 OR L27 OR L36 OR L40
L44          23 S L29 NOT L43
L45          17 S 1802-2004/PY,PRY,AY AND L43
L46          18 S 1802-2004/PY,PRY,AY AND L44
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=> FILE HCA
FILE 'HCA' ENTERED AT 18:15:14 ON 12 NOV 2010
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=> D L45 1-17 BIB ABS HITSTR HITIND RE
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L45 ANSWER 1 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 143:30421 HCA Full-text
TI Copper-based multi-element low-silver alloy brazing materials
IN Ma, Guang; Li, Yine; Wang, Zhi
PA Xibei Non-Ferrous Metal Inst., Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, No pp. given
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1490123	A	20040421	CN 2003-153137	20030808
PRAI	CN 2003-153137		20030808		

AB This invention discloses a kind of copper-based multi-element low-silver alloy brazing materials used in brazing copper alloy, stainless steel and high-strength steel. The alloys in this invention contain Mn (10-25 wt.%), Ni (5-20%), Ag (2-10%), Si (0.1-2%), B (0.05-1%), Cu (balance) and impurities. These alloys' melting temp. is 860-930 °C, and their brazing temp. is 960 °C. These brazing materials have lower cost than normal silver-based alloys because of lower silver content, have high welding strength, and can work in liq. oxygen or kerosene medium.

IT 852658-00-5
(base element in multi-element low-silver alloy brazing material)

RN 852658-00-5 HCA

CN Copper alloy, base, Cu 42-83,Mn 10-25,Ni 5-20,Ag 2-10,Si 0.1-2,B 0-1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	42 - 83	7440-50-8
Mn	10 - 25	7439-96-5
Ni	5 - 20	7440-02-0
Ag	2 - 10	7440-22-4
Si	0.1 - 2	7440-21-3
B	0 - 1	7440-42-8

IPCI B23K0035-30 [ICM,7]
IPCR B23K0035-30 [I,C*]; B23K0035-30 [I,A]
CC 56-3 (Nonferrous Metals and Alloys)
ST copper based low silver alloy brazing solder
IT Brazes
(base element in multi-element low-silver alloy brazing material)
IT Brazing
(copper-based multi-element low-silver alloy brazing material)
IT 852658-00-5 852658-01-6 852658-02-7 852658-03-8
(base element in multi-element low-silver alloy brazing material)

L45 ANSWER 2 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 142:377568 HCA Full-text
TI Copper alloy braze for vacuum brazing of stainless

steel
IN Luo, Zhaohui; Luo, Jinsong; Zhang, Yiqi; Yang, Shilin
PA Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 5 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 1488771	A	20040414	CN 2002-137388	20021010
PRAI CN 2002-137388		20021010		

AB The alloy comprises Sn 15-30, Ni 2-30, B 0.1-2, Si 0.1-1%, and Cu bal. The m.p. of the title alloy is 920-935°.
IT 849438-36-4
(copper alloy **braze** for vacuum **brazing** of stainless steel)
RN 849438-36-4 HCA
CN Copper alloy, base, Cu 37-83,Sn 15-30,Ni 2-30,B 0.1-2,Si 0.1-1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	37 - 83	7440-50-8
Sn	15 - 30	7440-31-5
Ni	2 - 30	7440-02-0
B	0.1 - 2	7440-42-8
Si	0.1 - 1	7440-21-3

IPCI C22C0009-02 [ICM,7]; B23K0035-28 [ICS,7]
IPCR B23K0035-28 [I,C*]; B23K0035-28 [I,A]; C22C0009-02 [I,C*]; C22C0009-02 [I,A]
CC 56-9 (Nonferrous Metals and Alloys)
ST copper alloy **braze** vacuum **brazing** stainless steel
IT **Brazes**
(copper alloy **braze** for vacuum **brazing** of stainless steel)
IT **Brazing**
(vacuum; copper alloy **braze** for vacuum **brazing** of stainless steel)
IT 12597-68-1, Stainless steel, processes
(copper alloy **braze** for vacuum **brazing** of stainless steel)
IT 849438-36-4
(copper alloy **braze** for vacuum **brazing** of stainless steel)

L45 ANSWER 3 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 142:223716 HCA Full-text
TI **Brazing** solder alloy based on copper and method for

brazing
IN Hartmann, Thomas; Nuetzel, Dieter
PA Vacuumschmelze G.m.b.H. & Co. K.-G., Germany
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005014870	A1	20050217	WO 2004-DE1736	20040803
	DE 10335947	A1	20050317	DE 2003-10335947	20030804
	CN 1701125	A	20051123	CN 2004-80001002	20040803
	CN 100537804	C	20090909		
	EP 1651786	A1	20060503	EP 2004-762581	20040803
	EP 1651786	B1	20090107		
	JP 2007501127	T	20070125	JP 2006-522227	20040803
	AT 420216	T	20090115	AT 2004-762581	20040803
	CN 101429602	A	20090513	CN 2008-10176149	20040803
	US 20050230454	A1	20051020	US 2005-95731	20050401
	US 7461770	B2	20081209		
	US 20090087340	A1	20090402	US 2008-267648	20081110
	US 7654438	B2	20100202		
PRAI	DE 2003-10335947	A	20030804		
	CN 2004-80001002	A3	20040803		
	WO 2004-DE1736	W	20040803		
	US 2005-95731	A3	20050401		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A brazing alloy is disclosed, which can particularly be produced as a homogeneous, ductile amorphous brazing film contg. Ni 2-20, Sn 2-12, Zn 0.5-5.0, P 6-16 at.%, and Cu and incidental impurities balance. The total content of Cu, Ni, Sn, and Zn is 80-95 at.%. An excellent resistance to surface oxidn. by air or air humidity is achieved by addn. of >0.5 at.% Zn. The brazing alloys permit prodn. of excellent brazing joints.

IT 840529-46-6
(oxidn. resistant brazing alloy)
RN 840529-46-6 HCA
CN Copper alloy, base, Cu 47-91,Sn 3.8-22,Ni 1.7-20,P 2.7-8.5,Zn 0.5-5.6 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	47 - 91	7440-50-8
Sn	3.8 - 22	7440-31-5
Ni	1.7 - 20	7440-02-0
P	2.7 - 8.5	7723-14-0
Zn	0.5 - 5.6	7440-66-6

CC 56-9 (Nonferrous Metals and Alloys)
ST copper brazing alloy

IT Brazes
(oxidn.-resistant copper brazing alloy)
IT 840529-46-6 840529-47-7 840529-48-8 840529-49-9
840529-50-2 840529-51-3 840529-52-4 840529-53-5 840529-54-6
840529-56-8 840529-57-9 840529-58-0 840529-59-1 840529-60-4
(oxidn. resistant brazing alloy)
RE CITED REFERENCES
(1) Anon; PATENT ABSTRACTS OF JAPAN 1977, V0010(53), PC-013
(2) Buhler, G; FR 894529 A 1944
(3) Buhler, G; DE 878865 C 1953
(4) Decristofaro, N; US 4489136 A 1984 HCA
(5) Furukawa Electric Co Ltd; JP 52011124 A 1977 HCA
(6) N Proizv Predpr Gamma; RU 2041783 C 1995 HCA
(7) Outokumpu Oy; EP 0429026 A 1991 HCA
OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L45 ANSWER 4 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 138:405285 HCA Full-text
TI Metal and/or alloy laminates for composite jewelry clad with precious metal
IN Dion, Paul J.; Carrano, Richard V.
PA Stern Leach Company, USA
SO U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20030096135	A1	20030522	US 2002-299869	20021119
PRAI	US 2001-331813P	P	20011120		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
AB The composite laminates for jewelry manuf. contain: (a) top layer of precious metal or alloy; (b) optional solder or braze interlayer; (c) support layer of age-hardenable Cu alloy; and (d) optional bottom layer of precious metal or alloy for 2-sided cladding. The precious-metal layer is preferably selected from Au, Ag, Pt, Au alloy of ≥10 carat type, a precious alloy with ≥80% Ag, or precious alloy with ≥50% Pt. The support layer is preferably a spinodal Cu alloy contg. 3-30% Ni and 2-10% Sn. The laminate is typically annealed at 538-593° and formed into the desired jewelry shape, and the jewelry articles are heat treated for age hardening at 300-500°. The Cu-alloy rod clad with precious-metal layer is suitable for drawing of wire for jewelry manuf.
IT 528813-45-8
(age-hardenable, laminates for jewelry with; metal and/or alloy laminates for composite jewelry clad with precious metal)
RN 528813-45-8 HCA
CN Copper alloy, base, Cu 60-95,Ni 3-30,Sn 2-10 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number

Cu	60	- 95	7440-50-8
Ni	3	- 30	7440-02-0
Sn	2	- 10	7440-31-5

CC 56-4 (Nonferrous Metals and Alloys)
IT Brazing
Soldering
(laminates with, for jewelry; metal and/or alloy laminates for composite jewelry clad with precious metal)
IT 528813-45-8 528813-46-9 528813-47-0
(age-hardenable, laminates for jewelry with; metal and/or alloy laminates for composite jewelry clad with precious metal)

L45 ANSWER 5 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 137:387894 HCA Full-text
TI Alloy-powder blend for free-form layered fabrication to manufacture hardenable prototype articles
IN Hede, Allan; Thorsson, Lena; Eklund, Bjoern
PA IUC Karlskoga AB, Swed.
SO PCT Int. Appl., 14 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002092264	A1	20021121	WO 2002-SE863	20020506
	SE 2001001654	A	20021112	SE 2001-1654	20010511
	SE 520974	C2	20030916		
	AU 2002253772	A1	20021125	AU 2002-253772	20020506
PRAI	SE 2001-1654	A	20010511		
	WO 2002-SE863	W	20020506		

AB The alloy powder blend is applied for manuf. of prototype articles by free-form layering with computer-aided design, and bonding of the powder particles to the previous layer. The powder blend preferably contains: (a) braze-type alloy powder having a lower m.p. for bonding; and (b) higher-m.p. alloy powder suitable for pptn. hardening, and based on Fe alloy, maraging steel, or Cu alloy. The articles are fabricated from the laser-sintered layers of powder mixt. having particle size <50 μm, and are finished by heat treatment for pptn. hardening. The typical powder mixt. suitable for laser-sintered layered articles having porosity .apprx.10% contains 10-30% of Cu-7 P-6% Sn alloy braze, and the balance as pptn.-hardening Cu-15 Ni-8% Sn alloy powder.
IT 475663-09-3
(powder mixt. with, sintered articles from; alloy-powder blend for free-form layered fabrication of pptn.-hardenable articles)
RN 475663-09-3 HCA
CN Copper alloy, base, Cu 68-86,Ni 10-20,Sn 4-12 (9CI) (CA INDEX NAME)

Component Component Component

	Percent	Registry Number
Cu	68 - 86	7440-50-8
Ni	10 - 20	7440-02-0
Sn	4 - 12	7440-31-5

IPCI B22F0001-05 [ICM,7]; C22C0033-02 [ICS,7]
IPCR B22F0003-105 [I,C*]; B22F0003-105 [I,A]
CC 56-4 (Nonferrous Metals and Alloys)
IT Brazes
(powder mixt. with, for laser-sintered prototypes; alloy-powder blend for free-form layered fabrication of pptn.-hardenable articles)
IT 7440-21-3, Silicon, uses 7440-42-8, Boron, uses
(braze alloy contg., sintered articles with; alloy-powder blend for free-form layered fabrication of pptn.-hardenable articles)
IT 12597-70-5, Bronze 12611-80-2, 17-4PH 12723-02-3, UNS K92890 52110-34-6, Maraging steel, uses 70747-62-5 475663-07-1 475663-09-3 475663-11-7 475663-13-9 475663-15-1
(powder mixt. with, sintered articles from; alloy-powder blend for free-form layered fabrication of pptn.-hardenable articles)
RE CITED REFERENCES
(1) Lang; WO 9852709 A2 1998 HCA
(2) Rockwell International Corporation; EP 0764487 A1 1997
OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L45 ANSWER 6 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 131:246996 HCA Full-text
TI Wetting and joining between Si3N4 ceramic and Cu-Ni-Ti alloy brazing filler
AU Xiong, Huaping; Wan, Chuangeng; Zhou, Zhenfeng
CS Dep. Materials Science and Engineering, Jinlin Univ. Technology, Changchun, 130025, Peop. Rep. China
SO Jinshu Xuebao (1999), 35(5), 527-530
CODEN: CHSPA4; ISSN: 0412-1961
PB Kexue Chubanshe
DT Journal
LA Chinese
AB The wetting properties of Cu-Ni-(27-56)Ti alloys (at.%) on Si3N4 was studied by the sessile drop method. When Cu38Ni30Ti32 and Cu34Ni27Ti39 alloys prepd. by double melting in vacuum were chosen as the brazing filler metals, the joining strength of Si3N4/Si3N4 has a lower value. In order to improve the homogeneity the paste-like brazing alloys were designed. The max. 3-point bend strengths of the Si3N4/Si3N4 joints which are brazed with 2 designed Cu-Ni-Ti(Si,B) alloys at 1353 K for 10 min, are increased to 338.8 and 206.9 MPa resp. The interfacial reactions of Si3N4/Si3N4 joint brazed with a paste-like brazing alloy were analyzed.
IT 244158-49-4, Boron 0-3, copper 46.8-78.6, nickel 5-20, silicon 0-3, titanium 16.4-27.2 (atomic)
(brazing filler; wetting and joining between Si3N4

ceramic and Cu-Ni-Ti alloy brazing filler)
RN 244158-49-4 HCA
CN Copper alloy, base, Cu 53-82,Ti 13-23,Ni 4.8-21,Si 0-1.5,B 0-0.6 (9CI)
(CA INDEX NAME)

Component	Component Percent			Component Registry Number
Cu	53	-	82	7440-50-8
Ti	13	-	23	7440-32-6
Ni	4.8	-	21	7440-02-0
Si	0	-	1.5	7440-21-3
B	0	-	0.6	7440-42-8

CC 57-2 (Ceramics)
Section cross-reference(s): 56
ST silicon nitride brazing copper nickel titanium alloy filler
IT Ceramics
(silicon nitride; wetting and joining between Si3N4 ceramic and Cu-Ni-Ti alloy brazing filler)
IT Brazes
Brazing
Contact angle
Wetting
(wetting and joining between Si3N4 ceramic and Cu-Ni-Ti alloy brazing filler)
IT 184486-35-9, Copper 41, nickel 32, titanium 27 (atomic) 184486-36-0, Copper 38, nickel 30, titanium 32 (atomic) 184486-37-1, Copper 34, nickel 27, titanium 39 (atomic) 184486-39-3, Copper 24, nickel 20, titanium 56 (atomic) 244158-49-4, Boron 0-3, copper 46.8-78.6, nickel 5-20, silicon 0-3, titanium 16.4-27.2 (atomic) 244158-50-7, Boron 0-3, copper 34.1-52.8, nickel 20-26.9, silicon 0-4.1, titanium 27.2-31.9 (atomic)
(brazing filler; wetting and joining between Si3N4 ceramic and Cu-Ni-Ti alloy brazing filler)
IT 12033-89-5, Silicon nitride si3n4, processes
(wetting and joining between Si3N4 ceramic and Cu-Ni-Ti alloy brazing filler)

L45 ANSWER 7 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 123:206142 HCA Full-text
OREF 123:36579a,36582a
TI Copper brazing alloys for brazing porous sintered steels among themselves or with solid steel parts
IN Lugscheider, Erich; Tillmann, Wolfgang; Zezhou, Feng
PA Degussa A.-G., Germany
SO Ger. Offen., 3 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4404406	A1	19950817	DE 1994-4404406	19940211
PRAI	DE 1994-4404406		19940211		

AB The alloys contain Si 1-6, B 0.1-1.5, Fe 0-25, and Ni 0-20%.

IT 167940-99-0
(brazing alloys for brazing porous sintered steels among themselves or with solid steel parts)

RN 167940-99-0 HCA

CN Copper alloy, base, Cu 48-99,Fe 0-25,Ni 0-20,Si 1-6,B 0.1-1.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	48 - 99	7440-50-8
Fe	0 - 25	7439-89-6
Ni	0 - 20	7440-02-0
Si	1 - 6	7440-21-3
B	0.1 - 1.5	7440-42-8

IPCI B23K0035-30 [ICM,6]; C22C0009-00 [ICS,6]

IPCR B23K0035-30 [I,C*]; B23K0035-30 [I,A]

CC 56-3 (Nonferrous Metals and Alloys)

ST copper brazing alloy porous sintered steel

IT Solders
(brazes, copper alloys for brazing porous sintered steels among themselves or with solid steel parts)

IT 167862-86-4, Copper silicide (CuSi4) 167862-87-5, Copper boride silicide (CuB0.25Si3) 167862-88-6, Copper boride silicide (CuB0.5Si3) 167862-89-7, Copper boride silicide (CuBSi3) 167862-90-0, Copper iron silicide (CuFe12Si5) 167862-91-1, Copper iron silicide (CuFe15Si4) 167862-92-2 167862-93-3
(brazing alloys for brazing porous sintered steels among themselves or with solid steel parts)

IT 167940-99-0
(brazing alloys for brazing porous sintered steels among themselves or with solid steel parts)

IT 12597-69-2, Steel, processes
(copper brazing alloys for brazing porous sintered steels among themselves or with solid steel parts)

RE CITED REFERENCES

(1) Anon; US 2175223 A HCA
(2) Anon; DE 3801884 A1 HCA
(3) Anon; CH 404365 A

L45 ANSWER 8 OF 17 HCA COPYRIGHT 2010 ACS on STN

AN 115:212872 HCA Full-text

OREF 115:36247a,36250a

TI Vacuum brazing of plate-rib heat exchangers

AU Radzievskii, V. N.; Mil'shtein, P. A.

CS VNIIKompressormash, Sumy, USSR
SO Svarochnoe Proizvodstvo (1991), (6), 32-3
CODEN: SVAPAI; ISSN: 0491-6441
DT Journal
LA Russian
AB The Al alloy AMts, low-C steel 08kp, and stainless steel 12Kh18N10T were used for prodn. of plate-rib heat exchangers (PRHE). The AMts sheets, 2-side clad with eutectic silumin braze (60-80 μm thick), were brazed at 615 ± 5° in a vacuum furnace (0.01 Pa). The Ti powder was used as an active sorbent in the vacuum furnace to decrease the partial O pressure by a few orders of magnitude and eliminate oxidn. of brazing surfaces. The PRHE from 08kp for use at ≤3.5 MPa were brazed with the 20-30-μm thick Cu foil at 1100° in vacuum. The PRHE from 12Kh18N10T were brazed with the 30-50-μm thick Cu-Ni foil MN19 at 1200° in vacuum 0.01 Pa to operate at ≤20 MPa.
IT 59421-36-2, MN19
(braze, for stainless steel)
RN 59421-36-2 HCA
CN Copper alloy, base, Cu 79-82,Ni 18-20,Fe 0-1,Mg 0-0.3,Si 0-0.2 (MN19) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	79 - 82	7440-50-8
Ni	18 - 20	7440-02-0
Fe	0 - 1	7439-89-6
Mg	0 - 0.3	7439-95-4
Si	0 - 0.2	7440-21-3

CC 56-9 (Nonferrous Metals and Alloys)
ST brazing vacuum heat exchanger; aluminum alloy brazing eutectic silumin; eutectic silumin braze aluminum alloy; steel brazing copper; copper braze low carbon steel; stainless steel brazing copper nickel; nickel copper braze stainless steel
IT Heat-exchange apparatus
(brazing of plate-rib, in vacuum)
IT Solders
(brazes, for heat exchanger prodn.)
IT Soldering
(brazing, vacuum, for heat exchanger)
IT 7440-50-8, Copper, uses and miscellaneous
(braze, for low-carbon steel)
IT 59421-36-2, MN19
(braze, for stainless steel)
IT 11103-16-5, 08Kp, uses and miscellaneous
(brazing of, with copper foil braze, for heat exchanger)
IT 50947-31-4, 12Kh18N10T
(brazing of, with copper-nickel foil braze, for heat exchanger)

IT 11146-15-9, AMts
(brazing of, with eutectic silumin filler, for heat exchanger)
IT 93228-98-9, Silumin
(eutectic, braze, for aluminum alloy)

L45 ANSWER 9 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 108:99290 HCA Full-text
OREF 108:16247a,16250a
TI Braze consumption in brazing of heat exchangers
AU Belyaev, V. N.
CS Dnepropetr. Ind. Inst., Dnepropetrovsk, USSR
SO Svarochnoe Proizvodstvo (1987), (10), 18-19
CODEN: SVAPAI; ISSN: 0491-6441
DT Journal
LA Russian
AB Tests were conducted on torch brazing (oxyacetylene or natural gas) of Cu, brass L96, and Cu-Ni alloy MN19 tubing using 3 Cu alloy fillers at 700-800°, 6-12 min, and joint clearance 0.2-0.8 mm. The optimum conditions involve using oxyacetylene flame at 750°, ≤9 min, and joint clearance 0.2-0.25 mm.
IT 59421-36-2, MN19
(heat exchanger, torch brazing of, filler consumption in)
RN 59421-36-2 HCA
CN Copper alloy, base, Cu 79-82,Ni 18-20,Fe 0-1,Mg 0-0.3,Si 0-0.2 (MN19) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	79 - 82	7440-50-8
Ni	18 - 20	7440-02-0
Fe	0 - 1	7439-89-6
Mg	0 - 0.3	7439-95-4
Si	0 - 0.2	7440-21-3

CC 56-9 (Nonferrous Metals and Alloys)
ST heat exchanger torch brazing filler; copper heat exchanger brazing filler; brass heat exchanger brazing filler; nickel copper heat exchanger brazing; optimization torch brazing heat exchanger; oxyacetylene torch brazing heat exchanger; natural gas torch brazing heat exchanger
IT Heat-exchange apparatus
(brazing of, filler consumption in torch)
IT Process optimization
(of torch brazing, of heat exchangers)
IT Natural gas
(torch brazing with, of heat exchangers, filler consumption in)
IT Soldering
(brazing, torch, of heat exchangers, filler consumption in)

IT 63106-16-1 83667-44-1, PMF0Tsr6-4-0.03 85941-25-9
(brazing with filler of, of heat exchangers)
IT 7440-50-8, Copper, uses and miscellaneous 59421-36-2, MN19 132199-15-6
(heat exchanger, torch brazing of, filler consumption in)
IT 7782-44-7, Oxygen, uses and miscellaneous
(torch brazing with acetylene and, of heat exchangers, filler consumption in)
IT 74-86-2, Acetylene, uses and miscellaneous
(torch brazing with oxygen and, of heat exchangers, filler consumption in)

L45 ANSWER 10 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 106:142518 HCA Full-text
OREF 106:23195a,23198a
TI Ornamental composites
IN Tsuji, Hitoshi; Kawaguchi, Seiichi
PA Tanaka Noble Metal Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61228947	A	19861013	JP 1985-70447	19850403
	JP 05006511	B	19930126		
PRAI	JP 1985-70447		19850403		

AB Ornamental composites, e.g., eyeglass frames, are manufd. from tinplated Ti or Ti alloy by cladding with Cu-(2.5-50) Ni-(0.01-10%) Sn alloy and a corrosion-resistant material. A tin plated Ti rod, for example, is coated with Cu-20 Ni-2% Sn alloy, and sleeved with a Ni-electroplated Ni-10% Cr alloy pipe. The resulting unit is extruded and drawn into a clad plate, which is brazed with Ag-28% Cu alloy in air at 830°. The av. rupture strength of the cladding is 22.5 vs. 8.5 kg/mm2 in the absence of the Cu-Ni-Sn alloy layer.
IT 11149-24-9
(cladding with nickel-plated, in manuf. of ornamental eyeglass frames)
RN 11149-24-9 HCA
CN Nickel alloy, base, Ni 90,Cr 10 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	90	7440-02-0
Cr	10	7440-47-3

IT 105568-77-2
(cladding with, of tin-plated titanium alloy, in manuf. of ornamental eyeglass frames)

RN 105568-77-2 HCA
CN Copper alloy, base, Cu 78,Ni 20,Sn 2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	78	7440-50-8
Ni	20	7440-02-0
Sn	2	7440-31-5

CC 56-9 (Nonferrous Metals and Alloys)
ST titanium cladding copper alloy ornament; nickel chromium alloy cladding ornament; tin plating titanium cladding ornament; silver copper alloy brazing composite; eyeglass frame titanium cladding
IT 12665-05-3
(brazing with, of nickel-chromium alloy clad ornamental eyeglass frames)
IT 11149-24-9
(cladding with nickel-plated, in manuf. of ornamental eyeglass frames)
IT 105568-77-2
(cladding with, of tin-plated titanium alloy, in manuf. of ornamental eyeglass frames)

L45 ANSWER 11 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 105:231154 HCA Full-text
OREF 105:37279a,37282a
TI Composite materials for eyeglass frames
IN Tsuji, Hitoshi; Kawaguchi, Seiichi
PA Tanaka Noble Metal Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61109021	A	19860527	JP 1984-231093	19841101
PRAI	JP 1984-231093		19841101		

AB The frames consist of a Ti or Ti-alloy composite with an interlayer of Cu alloy contg. 2.5-50% Ni and 0.01-10% Sn and/or Al under a corrosion-resistant cladding. The frames brazed in air show high joint strength with no peeling. Thus, a Ti core having diam. 3 mm was coated with Cu-20 Ni-2% Sn alloy for interlayer 0.017 mm thick and then with Ni-10% Cr alloy top layer 0.25 mm thick, and rolled into a clad strip 0.75 mm thick. The strips were brazed in air at 830° with Ag-25% Cu alloy. The brazed specimen showed tensile strength 65 kg/mm2 with fracture in the core, vs. 35 without the interlayer.
IT 11149-24-9
(cladding with, on titanium alloy with copper alloy interlayer, for

brazed eyeglass frames)
RN 11149-24-9 HCA
CN Nickel alloy, base, Ni 90,Cr 10 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	90	7440-02-0
Cr	10	7440-47-3

IT 105568-77-2
(interlayer, in titanium alloy composite clad with nickel-chromium alloy, for brazed eyeglass frames)
RN 105568-77-2 HCA
CN Copper alloy, base, Cu 78,Ni 20,Sn 2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	78	7440-50-8
Ni	20	7440-02-0
Sn	2	7440-31-5

IPCI G02C0005-00 [ICM,4]; B32B0015-01 [ICS,4]
IPCR B32B0015-01 [I,C*]; B32B0015-01 [I,A]; G02C0005-00 [I,C*]; G02C0005-00 [I,A]
CC 56-6 (Nonferrous Metals and Alloys)
ST titanium alloy composite eyeglass frame; copper alloy interlayer cladding titanium; nickel chromium cladding composite titanium; brazing composite titanium eyeglass frame
IT Eyeglasses
(frames, titanium alloy composites clad with nickel-chromium alloy for, copper alloy interlayer for brazing of)
IT 37186-56-4
(cladding with, of titanium alloy, copper alloy interlayer for, in brazing of eyeglass frames)
IT 11149-24-9
(cladding with, on titanium alloy with copper alloy interlayer, for brazed eyeglass frames)
IT 7440-32-6, properties 11109-23-2
(composite with nickel-chromium alloy on, copper alloy interlayer in, for brazing of eyeglass frames)
IT 105568-78-3
(interlayer, in titanium alloy clad with nickel-chromium alloy, for brazing of eyeglass frames)
IT 105568-77-2
(interlayer, in titanium alloy composite clad with nickel-chromium alloy, for brazed eyeglass frames)

L45 ANSWER 12 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 105:195528 HCA Full-text

OREF 105:31491a,31494a
TI Brazing alloy
IN Wronski, Andrew Stephen; Chilton, Arthur Colin
PA University of Bradford, UK
SO Brit. UK Pat. Appl., 2 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 2168078	A	19860611	GB 1985-28375	19851118
PRAI GB 1984-29080	A	19841116		

AB A Cu-P-Sn brazing alloy suitable for low-temp. joining of steel has increased strength without brittleness. Addn. of Group VIIB or VIII metal (esp. Ni) at 2-22% prevents formation of brittle phosphides. The brazing alloy can replace more expensive Ag-base alloy. Thus, powd. brazing alloy contg. Cu 87.3, P 7.1, and Sn 5.6% was mixed with 4-15% Ni and an org. binder. A 6 + 25 mm lap specimens of steel were brazed with the alloy mixt. resulting in shear strength of 40-50 MN/m2.
IT 105031-74-1
(brazing alloy, for steel, decreased brittleness in)
RN 105031-74-1 HCA
CN Copper alloy, base, Cu 68-86,Ni 2-22,P 5.5-7,Sn 4.4-5.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	68 - 86	7440-50-8
Ni	2 - 22	7440-02-0
P	5.5 - 7	7723-14-0
Sn	4.4 - 5.5	7440-31-5

IPCI C22C0009-02 [ICM,4]
IPCR B23K0035-30 [I,C*]; B23K0035-30 [I,A]
CC 55-9 (Ferrous Metals and Alloys)
ST copper phosphorus nickel tin braze
IT Solders
(brazes, copper-nickel-phosphorus-tin alloy, for steel)
IT 100470-85-7 105031-74-1
(brazing alloy, for steel, decreased brittleness in)
OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L45 ANSWER 13 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 102:118201 HCA Full-text
OREF 102:18523a,18526a
TI Homogeneous low melting point copper alloys
IN Bose, Debasis; Datta, Amitava; DeCristofaro, Nicholas J.
PA Allied Corp., USA
SO U.S., 5 pp. Cont.-in-part of U.S. 4,460,658.

CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4489136	A	19841218	US 1983-488851	19830426
	US 4460658	A	19840717	US 1982-420549	19820920
	EP 103805	A1	19840328	EP 1983-108759	19830906
	EP 103805	B1	19860813		
	AU 8318982	A	19840329	AU 1983-18982	19830909
	AU 554073	B2	19860807		
	NO 8303375	A	19840321	NO 1983-3375	19830919
	NO 160304	B	19881227		
	NO 160304	C	19890405		
	JP 59100247	A	19840609	JP 1983-174028	19830920
	JP 62047935	B	19871012		
	US 4497429	A	19850205	US 1984-587323	19840307
	US 4573630	A	19860304	US 1984-644290	19840827
PRAI	US 1982-420549	A2	19820920		
	US 1983-488851	A	19830426		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Cu and Cu alloys are **brazed** with a high-strength ductile Cu alloy contg. Ni 5-52, Sn 2-10, and P 10-15 at.%. The structure is ≥50% amorphous and is suitable for foil 1-2.5 mil thick. A typical Cu alloy [90509-48-1] contg. Ni 10, Sn 2, and P 15 at.% has a liquidus temp. of 645° and solidus temp. of 610°.

IT **95254-48-1**
(**braze**, amorphous, for copper and copper alloys)
RN 95254-48-1 HCA
CN Copper alloy, base, Cu 40-82,Ni 5.6-37,Sn 4-19,P 4.8-8 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	40 - 82	7440-50-8
Ni	5.6 - 37	7440-02-0
Sn	4 - 19	7440-31-5
P	4.8 - 8	7723-14-0

CC 56-9 (Nonferrous Metals and Alloys)
ST amorphous copper alloy **braze**; nickel copper **braze** amorphous; tin copper **braze** amorphous; phosphorus copper **braze** amorphous
IT Glass, nonoxide
(copper-nickel-tin-phosphorus alloys, for **brazing** of copper and copper alloys)
IT Solders
(**brazes**, copper-nickel-tin-phosphorus alloys, amorphous low-melting, for copper and copper alloys)

IT Copper alloy, base
(brazing of, low-melting amorphous copper alloy for)
IT 90509-48-1 95254-48-1
(braze, amorphous, for copper and copper alloys)
IT 7440-50-8, uses and miscellaneous
(brazing of, low-melting amorphous copper alloy for)
RE CITED REFERENCES

(1) Anon; EP 0010866 A1 HCA
(2) Anon; EP 1206380 A1
(3) Anon; US 1535542 A HCA
(4) Anon; US 2117106 A HCA
(5) Anon; US 2235634 A HCA
(6) Anon; US 2269581 A HCA
(7) Anon; AU 235657 A
(8) Anon; SU 244624 A HCA
(9) Anon; GB 288947 A
(10) Anon; US 30854 A HCA
(11) Anon; US 31180 A HCA
(12) Anon; US 3392017 A HCA
(13) Anon; US 3856513 A HCA
(14) Anon; US 4006838 A HCA
(15) Anon; US 4009027 A
(16) Anon; US 4071358 A
(17) Anon; US 4130421 A HCA
(18) Anon; US 4209570 A HCA
(19) Anon; US 4253870 A HCA
(20) Anon; US 4388270 A HCA
(21) Anon; JP 52004451 A HCA
(22) Anon; JP 52011124 A HCA
(23) Anon; JP 56000265 A HCA

OSC.G 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L45 ANSWER 14 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 101:11334 HCA Full-text
OREF 101:1805a,1808a
TI Homogeneous low-melting point copper **brazing** alloys
IN Bose, Debasis; Datta, Amitava; Decristofaro, Nicholas John
PA Allied Corp., USA
SO Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 103805	A1	19840328	EP 1983-108759	19830906
	EP 103805	B1	19860813		
	US 4460658	A	19840717	US 1982-420549	19820920
	US 4489136	A	19841218	US 1983-488851	19830426
PRAI	US 1982-420549	A	19820920		
	US 1983-488851	A	19830426		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Cu and Cu alloys are brazed with Cu alloy foils contg. Ni 5-52, Sn 2-10, and P 10-15 at.% and having a structure ≥50% amorphous. A typical Cu brazing alloy [90509-48-1] contains Ni 10, Sn 2, and P 15 at.% and has a solidus temp. of 610°.

IT 90509-47-0
(braze, for copper and its alloys)

RN 90509-47-0 HCA

CN Copper alloy, base, Cu 40-82,Ni 6-37,Sn 4-19,P 5.3-8 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	40 - 82	7440-50-8
Ni	6 - 37	7440-02-0
Sn	4 - 19	7440-31-5
P	5.3 - 8	7723-14-0

IPCI B23K0035-30 [ICM]; C22C0009-00 [ICS]; C22C0001-00 [ICS]

IPCR B23K0035-02 [I,C*]; B23K0035-02 [I,A]; B23K0035-30 [I,C*]; B23K0035-30 [I,A]

CC 56-9 (Nonferrous Metals and Alloys)

ST copper alloy braze low melting; nickel addn copper alloy braze; tin addn copper alloy braze; phosphorus addn copper alloy braze; amorphous copper alloy braze

IT Glass, nonoxide
(copper-nickel-tin-phosphorus alloys, for brazing copper and its alloys)

IT Solders
(brazes, copper-nickel-tin-phosphorus, for copper and its alloys)

IT Copper alloy, base
(brazing of, low-melting copper alloy for)

IT 90509-47-0 90509-48-1
(braze, for copper and its alloys)

IT 7440-50-8, uses and miscellaneous
(brazing of, low-melting copper alloy for)

OSC.G 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

L45 ANSWER 15 OF 17 HCA COPYRIGHT 2010 ACS on STN

AN 98:130748 HCA Full-text

OREF 98:19865a,19868a

TI Corrosion resistance of brazed joints of copper and its alloys in an aqueous medium

AU Belyaev, V. N.

CS PO Voroshilovgradteplovoz, Voroshilovgrad, USSR

SO Avtomaticheskaya Svarka (1982), (11), 50-3
CODEN: AVSVAU; ISSN: 0005-111X

DT Journal

LA Russian

AB Joints of Cu with brass L96 [132199-15-6] or Melchior MN19 [59421-36-2] for diesel locomotive radiators were brazed with Ag-contg. PSrF 1.7-7.5 or Ag-free PMFS 6-0.15 alloy. The corrosion resistance was high, esp. with a 0.1-0.2 mm gap between brazed elements, in moving water contg. NaNO2 2500-3000 or CrO3 80-100 mg/L for 3 yr. The Ag-free brazing alloy was a suitable substitute for the Ag-contg. alloy.

IT 59421-36-2
(brazed joints of copper and, corrosion resistance of, for locomotive radiators)

RN 59421-36-2 HCA

CN Copper alloy, base, Cu 79-82,Ni 18-20,Fe 0-1,Mg 0-0.3,Si 0-0.2 (MN19) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	79 - 82	7440-50-8
Ni	18 - 20	7440-02-0
Fe	0 - 1	7439-89-6
Mg	0 - 0.3	7439-95-4
Si	0 - 0.2	7440-21-3

CC 56-10 (Nonferrous Metals and Alloys)

ST copper brazed joint brass corrosion

IT Radiators
(copper-brass brazed joints in, corrosion resistance of, for locomotives)

IT Joints, mechanical
(brazed, brass-copper, corrosion resistance of, for locomotive radiators)

IT 7440-50-8, reactions
(brazed joints of brass and, corrosion resistance of, for locomotive radiators)

IT 59421-36-2 132199-15-6
(brazed joints of copper and, corrosion resistance of, for locomotive radiators)

L45 ANSWER 16 OF 17 HCA COPYRIGHT 2010 ACS on STN

AN 86:77397 HCA Full-text

OREF 86:12235a,12238a

TI Copper alloy for a spectacles rim

IN Ohara, Mitsuhiro; Koyanagi, Nobuyuki; Mori, Toshizane

PA Ishifuku Metal Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 51119320	A	19761019	JP 1975-43928	19750411

JP 54030370 B 19790929
PRAI JP 1975-43928 A 19750411
AB The Cu alloy contains Ni 5.0-25.0, Zn and Sn 0.01-3.5 each, Mn 0.01-1.0, and Ag and Si 0.01-0.05% each. The alloy is machinable, brazable, and forms well on lenses, and also forms a clad. Thus, a Cu alloy [61662-81-5] for the rim contg. Ni 17.0, Zn 1.5, Sn 1.5, Mn 0.01, Ag 0.02, and Si 0.01% had a Vickers hardness .apprx.200 and elastic limit .apprx.40 kg/mm2 at 75% redn.
IT 61662-81-5
(for spectacle rims)
RN 61662-81-5 HCA
CN Copper alloy, base, Cu 80,Ni 17,Sn 1.5,Zn 1.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	80	7440-50-8
Ni	17	7440-02-0
Sn	1.5	7440-31-5
Zn	1.5	7440-66-6

CC 56-2 (Nonferrous Metals and Alloys)
IT 61662-81-5
(for spectacle rims)

L45 ANSWER 17 OF 17 HCA COPYRIGHT 2010 ACS on STN
AN 76:8158 HCA Full-text
OREF 76:1324a
TI Solder for vacuum tubes
IN Tutorskaya, N. N.; Yushkina, E. T.; Smirnova, T. I.; Barvinskaya, S. B.; Stroganova, V. V.
PA State Scientific-Research and Design Institute of Alloys and Processing of nonferrous Metals; "Emitron" Plants
SO U.S.S.R.
From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1971, 48(26), 42.
CODEN: URXXAF
DT Patent
LA Russian
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI SU 312709		19710831	SU	19700408

AB The solder contained Cu, Ni, Fe, Co, and Si. To raise the quality and strength of brazed joints between ceramics and with metals, the solder consisted of Ni 17-27, Fe 0.01-0.2, Co 0.1-0.8, Si 0.1-0.6%, and Cu the remainder. To lower the m.p. of the solder, 0.8-2.0% Ge was used instead of the Si.
IT 11105-44-5, uses and miscellaneous
(solders, for vacuum tubes)
RN 11105-44-5 HCA
CN Copper alloy, base, Cu 71-83,Ni 17-27,Co 0.1-0.8,Si 0.1-0.6,Fe 0-0.2

(9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	71 - 83	7440-50-8
Ni	17 - 27	7440-02-0
Co	0.1 - 0.8	7440-48-4
Si	0.1 - 0.6	7440-21-3
Fe	0 - 0.2	7439-89-6

IPCI B23K; C22C
CC 71 (Electric Phenomena)
IT 11105-43-4 11105-44-5, uses and miscellaneous
(solders, for vacuum tubes)

=> D L46 1-18 BIB ABS HITSTR HITIND RE

L46 ANSWER 1 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 146:85582 HCA Full-text
TI Method of manufacturing wires and strips of a copper-based braze
IN Fryda, Stefan; Ksiezarek, Stanislaw; Besztak, Bronislaw; Smieszek, Zbigniew; Durst, Krzysztof; Przybysz, Andrzej
PA Instytut Metali Niezelaznych, Pol.
SO Pol., 5pp.
CODEN: POXXA7
DT Patent
LA Polish
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI PL 190965	B1	20060228	PL 1999-337371	19991220
PRAI PL 1999-337371		19991220		

AB The method of manufg. Cu-based brazing alloy wires and strips consists in placing a charge comprising Cu and electrolytic Mn in the amts. required to obtain an initial alloy contg. 68-72% Cu and 28-32% Mn in a vacuum furnace, decreasing the pressure in the furnace below 1 Tr, heating the charge to the melting start temp., introducing the atm. gas to the furnace chamber and melting the charge completely at 100-500 Tr, then upon attaining the temp. of about 970° decreasing the pressure in the furnace down to several Tr and degassing the bath during 5-15 min, again introducing the atm. gas up to pressure within the 100-500 Tr range and in that atm. casting the starting Cu-Mn alloy, then placing the obtained starting Cu-Mn alloy in the amt. of 15-17% to the induction furnace crucible together with 18.5-20.5% of the starting Cu-(27-31)%Ni alloy, 45-48% qualified brass wastes contg. 35-39%Zn and balance Cu as a charge, covering the latter with the molten borax and completely melting it. Then, Zn is added to the bath under the slag layer in the amt. of 16.5-18.5% (based on the charge) and while mixing it is embedded into the metal with further introduction of 0.1-0.4% Si under the

slag layer, and so obtained liq. braze is mixed, the temp. is increased up to 925-935°, and the mixt. is cast by the continuous horizontal technique at the rate about 230 mm/min. The semifinished products in the form of wires or flat bars are submitted to homogenizing annealing at 650-750° in a protective atm., and then the wires are cold drawn via the 10-20% single drafts and 40-80% total deformation whereas the bars are cold rolled at 5-20% single drafts and 30-80% total deformation employing in both procedures intermediate annealing at 520-620° during 1.5-2.5 h.

IT 53116-23-7, CuNi20
(starting alloy, charge contg.; method of manufg. wires and strips of copper-based braze)

RN 53116-23-7 HCA

CN Copper alloy, base, Cu 74-81,Ni 19.0-23.0,Fe 0-1.0,Mn 0-1.0,Zn 0-1.0,Pb 0-0.05 (UNS C71000) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	74 - 81	7440-50-8
Ni	19.0 - 23.0	7440-02-0
Fe	0 - 1.0	7439-89-6
Mn	0 - 1.0	7439-96-5
Zn	0 - 1.0	7440-66-6
Pb	0 - 0.05	7439-92-1

IPCI B23P0017-00 [I,C]; C21D0009-52 [I,C]; B23P0017-04 [I,A]; C21D0009-52 [I,A]

IPCR B23P0017-00 [I,A]

CC 56-9 (Nonferrous Metals and Alloys)

ST copper alloy braze wire strip manuf

IT Solid wastes
(brass, charge contg.; method of manufg. wires and strips of copper-based braze)

IT Casting of metals
(continuous, horizontal; method of manufg. wires and strips of copper-based braze)

IT Cast alloys
(copper alloys; method of manufg. wires and strips of copper-based braze)

IT Cold rolling
(flat bars; method of manufg. wires and strips of copper-based braze)

IT Annealing
(homogenizing and intermediate in plastic working; method of manufg. wires and strips of copper-based braze)

IT Pressure
(in vacuum furnace; method of manufg. wires and strips of copper-based braze)

IT Electric furnaces
(induction; method of manufg. wires and strips of copper-based braze)

IT Brazes
Wire drawing
Wires
(method of manufg. wires and strips of copper-based braze
)
IT Degassing
(vacuum furnace chamber; method of manufg. wires and strips of
copper-based braze)
IT Furnaces
(vacuum; method of manufg. wires and strips of copper-based
braze)
IT 7440-21-3, Silicon, uses 7440-66-6, Zinc, uses
(method of manufg. wires and strips of copper-based braze
)
IT 1303-96-4, Borax
(method of manufg. wires and strips of copper-based braze
)
IT 53116-23-7, CuNi20 86304-65-6 917235-70-2 917235-71-3
(starting alloy, charge contg.; method of manufg. wires and strips
of copper-based braze)
IT 37321-99-6, M63 917243-32-4
(wastes, charge contg.; method of manufg. wires and strips of
copper-based braze)

L46 ANSWER 2 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 142:432097 HCA Full-text
TI A plate heat exchanger and its manufacture
IN Sjoedin, Per; Dahlberg, Per-Olof
PA Alfa Laval Corporate Ab, Swed.
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005038382	A1	20050428	WO 2004-SE1322	20040920
	SE 2003002748	A	20050418	SE 2003-2748	20031017
	SE 527509	C2	20060328		
	AU 2004281347	A1	20050428	AU 2004-281347	20040920
	AU 2004281347	B2	20090226		
	CA 2542746	A1	20050428	CA 2004-2542746	20040920
	EP 1676089	A1	20060705	EP 2004-775426	20040920
	EP 1676089	B1	20100707		
	CN 1867807	A	20061122	CN 2004-80030437	20040920
	CN 100554862	C	20091028		
	JP 2007508523	T	20070405	JP 2006-535296	20040920
	AT 473410	T	20100715	AT 2004-775426	20040920
	ES 2346537	T3	20101018	ES 2004-775426	20040920
	US 20070044309	A1	20070301	US 2006-575720	20060413
	KR 2007022192	A	20070226	KR 2006-7007181	20060414

PRAI SE 2003-2748 A 20031017
WO 2004-SE1322 W 20040920
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
AB The plate heat exchanger includes a no. of heat exchanger plates which are provided beside each other and connected to each other by a braze connection. The heat exchanger plates are substantially manufd. in stainless steel contg. chromium. The plate heat exchanger includes a no. of port channels extending through at least some of the heat exchanger plates. Each port channel is surrounding by a connection surface for connection of the port channel to a pipe member. The connection surface includes a material permitting brazing of the pipe member to the connection surface in a more easy manner than stainless steel.
IT 850629-80-0
(a plate heat exchanger and its manuf.)
RN 850629-80-0 HCA
CN Copper alloy, base, Cu 55-95,Ni 5-45 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	55 - 95	7440-50-8
Ni	5 - 45	7440-02-0

CC 47-4 (Apparatus and Plant Equipment)
ST plate heat exchanger brazing connection
IT Brazing
(a plate heat exchanger and its manuf.)
IT 7440-02-0, Nickel, uses 7440-50-8, Copper, uses 12597-68-1, Chromium stainless steel, uses 850629-80-0
(a plate heat exchanger and its manuf.)
RE CITED REFERENCES
(1) Alfa Laval Corporate Ab; WO 03058142 A1 2003
(2) Behr Gmbh & Co; DE 19805439 A1 1999
(3) Ford Global Technologies Inc; GB 2322323 A 1998 HCA
(4) Lawrence Holdings Overseas Limited; GB 820153 A 1959
(5) Usui; US 4223826 A 1980
OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L46 ANSWER 3 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 139:183527 HCA Full-text
TI Corrosion-resistant brazing filler metals for stainless steel
IN Hasegawa, Isao; Yamamoto, Yoshitaka; Inagaki, Sadao; Takase, Tatsumi
PA Daikin Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI JP 2003230981 A 20030819 JP 2002-35452 20020213
PRAI JP 2002-35452 20020213
AB The brazing filler metals contain Cu as a base metal and 15-35 wt.% Ni. The brazing filler metals are resistant to corrosion in aq. LiBr soln., and are useful for stainless steel plate heat exchangers of absorption freezers using LiBr as an absorber.
IT 11122-98-8 12725-07-4 577954-78-0, Copper 65-85, nickel 15-35
(corrosion-resistant Cu-Ni-based brazing filler metals for stainless steel)
RN 11122-98-8 HCA
CN Copper alloy, base, Cu 80,Ni 20 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	80	7440-50-8
Ni	20	7440-02-0

RN 12725-07-4 HCA
CN Copper alloy, base, Cu 83,Ni 17 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	83	7440-50-8
Ni	17	7440-02-0

RN 577954-78-0 HCA
CN Copper alloy, base, Cu 65-85,Ni 15-35 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	65 - 85	7440-50-8
Ni	15 - 35	7440-02-0

IPCI B23K0035-30 [ICM,7]; C22C0009-06 [ICS,7]
IPCR B23K0035-30 [I,C*]; B23K0035-30 [I,A]; C22C0009-06 [I,C*]; C22C0009-06 [I,A]
CC 55-9 (Ferrous Metals and Alloys)
Section cross-reference(s): 47, 56
ST copper nickel corrosion resistance braze stainless steel; heat exchanger stainless steel braze copper nickel; lithium bromide corrosion resistance braze copper nickel
IT Freezers
(absorption; corrosion-resistant Cu-Ni-based brazing filler metals for stainless steel in)
IT Corrosion-resistant materials
(brazes; corrosion-resistant Cu-Ni-based brazing filler metals for stainless steel)

IT Brazes
(corrosion-resistant; corrosion-resistant Cu-Ni-based brazing filler metals for stainless steel)
IT Plates
(heat exchanging; corrosion-resistant Cu-Ni-based brazing filler metals for stainless steel in)
IT Heat exchangers
(plate; corrosion-resistant Cu-Ni-based brazing filler metals for stainless steel in)
IT 7550-35-8, Lithium bromide
(aq. soln. in absorption freezer, corrosion by; corrosion-resistant Cu-Ni-based brazing filler metals for stainless steel)
IT 11101-30-7 11122-95-5 11122-98-8 12725-07-4 577954-78-0, Copper 65-85, nickel 15-35
(corrosion-resistant Cu-Ni-based brazing filler metals for stainless steel)
IT 11134-23-9, SUS 316L 12597-68-1, Stainless steel, uses
(corrosion-resistant Cu-Ni-based brazing filler metals for stainless steel)

L46 ANSWER 4 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 139:183526 HCA Full-text
TI Brazed stainless steel equipments and their manufacture
IN Hasegawa, Isao; Yamamoto, Yoshitaka; Inagaki, Sadao; Takase, Tatsumi
PA Daikin Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003230956	A	20030819	JP 2002-35571	20020213
PRAI JP 2002-35571		20020213		

AB Stainless steel brazed with Cu-Ni alloys are claimed. The brazed stainless steel may be heat exchanger plates. Alternate laminates of stainless steel and Cu-Ni alloys or laminates of stainless steel brazed with Cu-Ni alloys are heat treated in vacuum at a temp. lower than the m.p. of the stainless steel and higher than the m.p. of the brazes for prepn. of the claimed stainless steel equipments. The equipments are resistant to corrosion by stray current.
IT 11122-98-8 12725-07-4 577954-78-0
(braze; vacuum brazing of stainless steels with Cu-Ni alloys for heat transfer app.)
RN 11122-98-8 HCA
CN Copper alloy, base, Cu 80,Ni 20 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	80	7440-50-8

Ni	20	7440-02-0

RN 12725-07-4 HCA
CN Copper alloy, base, Cu 83,Ni 17 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	83	7440-50-8
Ni	17	7440-02-0

RN 577954-78-0 HCA
CN Copper alloy, base, Cu 65-85,Ni 15-35 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	65 - 85	7440-50-8
Ni	15 - 35	7440-02-0

CC 55-9 (Ferrous Metals and Alloys)
Section cross-reference(s): 56
ST stainless steel **brazing** nickel copper; thermal transfer plate stainless steel **brazing**; stray current corrosion resistance stainless steel equipment
IT **Brazes**
(copper-nickel alloys; vacuum **brazing** of stainless steels with Cu-Ni alloys for heat transfer app.)
IT Plates
(heat exchanging; vacuum **brazing** of stainless steels with Cu-Ni alloys for heat transfer app.)
IT Heat exchangers
(plate; vacuum **brazing** of stainless steels with Cu-Ni alloys for heat transfer app.)
IT 11101-30-7 11122-95-5 **11122-98-8** **12725-07-4** 54791-18-3 **577954-78-0**
(**braze**; vacuum **brazing** of stainless steels with Cu-Ni alloys for heat transfer app.)
IT 11134-23-9, SUS 316L 12597-68-1, Stainless steel, processes
(vacuum **brazing** of stainless steels with Cu-Ni alloys for heat transfer app.)

L46 ANSWER 5 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 132:209578 HCA Full-text
TI Heat-exchange apparatus
IN Hirano, Akiyoshi
PA Aishin Seiki Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000074576	A	20000314	JP 1998-243522	19980828
PRAI	JP 1998-243522		19980828		

AB The title app. contains a cylindrical part, ≥1 thin tubes, which are parallel to the cylindrical part and also are manufd. from 5-40 wt.% Ni-contg. Cu or Cu alloys, in the cylindrical part, an outer passage between the thin tube and the cylindrical part, ≥1 inner passage at the inside of the thin tube, a wire net laminated on the outer passage to form fins, and another wire net laminated on the inner passage to form fins. The thin tube and the wire net may be diffusion jointed through coatings of Cu, Cr, Ni, Ag, or their alloys on the inner and/or outer. The inner and/or outer of the thin tube may be coated with brades or adhesives. The thin tube may be from Cu or deoxygen P-Cu alloys. The app. decreases heat transferring from the thin tube and the wire net and also heat resistance of them.

IT 62588-84-5
(thin tube from Cu-Ni alloy (coated with metal to diffusion join with wire net or braze) in heat-exchange app.)

RN 62588-84-5 HCA

CN Copper alloy, base, Cu 60-95,Ni 5-40 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	60 - 95	7440-50-8
Ni	5 - 40	7440-02-0

CC 47-4 (Apparatus and Plant Equipment)

IT Brazing
Coating materials
Heat exchanger tubes
Heat exchangers
(thin tube from Cu-Ni alloy (coated with metal to diffusion join with wire net or braze) in heat-exchange app.)

IT 12605-80-0, Cupronickel 62588-84-5
(thin tube from Cu-Ni alloy (coated with metal to diffusion join with wire net or braze) in heat-exchange app.)

IT 7440-02-0, Nickel, uses 7440-22-4, Silver, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses
(thin tube from Cu-Ni alloy (coated with metal to diffusion join with wire net or braze) in heat-exchange app.)

L46 ANSWER 6 OF 18 HCA COPYRIGHT 2010 ACS on STN

AN 131:188441 HCA Full-text

TI Joining of Si3N4/Si3N4 with CuNiTiB paste brazing filler metals and interfacial reactions of the joints

AU Wan, Chuangeng; Xiong, Huaping; Zhou, Zhenfeng

CS Department of Materials Science and Engineering, Jilin University of Technology, Changchun, 130025, Peop. Rep. China

SO Journal of Materials Science (1999), 34(12), 3013-3019

CODEN: JMTSAS; ISSN: 0022-2461
PB Kluwer Academic Publishers
DT Journal
LA English
AB The joining of Si3N4/Si3N4 was carried out using CuNiTiB paste brazing filler metals. The max. room-temp. three-point bend strength of the joints was 338.8 MPa. The cross-section microstructures of the joints and the element area distribution were examd. by SEM equipped with wavelength-dispersive x-ray spectroscopy. The phases appeared on the fracture surfaces of the joints were detd. by means of x-ray diffraction anal. method. A model was established of the interfacial reactions between Si3N4 and the CuNiTiB brazing filler metals. With this model, the relationship between the joint strength and the interfacial reactions was discussed.
IT 200429-29-4, HTB2 240430-38-0, HTB 1 (copper braze)
(braze; interfacial reactions in joining of Si3N4 ceramics with CuNiTiB paste brazing filler metals)
RN 200429-29-4 HCA
CN Copper alloy, base, Cu,Ni,Ti (HTB2) (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	52 - 83	7440-50-8
Ni	4.8 - 25	7440-02-0
Ti	13 - 23	7440-32-6

RN 240430-38-0 HCA
CN Copper alloy, base, Cu,Ni,Ti (HTB1) (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	63 - 86	7440-50-8
Ni	4.8 - 25	7440-02-0
Ti	9.4 - 13	7440-32-6

CC 57-2 (Ceramics)
Section cross-reference(s): 56
ST silicon nitride ceramic brazed joint; CuNiTiB brazing filler metal ceramic joining
IT Brazes
(CuNiTiB pastes; interfacial reactions in joining of Si3N4 ceramics with CuNiTiB paste brazing filler metals)
IT Joints, mechanical
(brazed; interfacial reactions in joining of Si3N4 ceramics with CuNiTiB paste brazing filler metals)
IT Joining
(ceramic-ceramic; interfacial reactions in joining of Si3N4 ceramics with CuNiTiB paste brazing filler metals)
IT Brazing

(interfacial reactions in joining of Si3N4 ceramics with CuNiTiB paste brazing filler metals)
IT 200429-29-4, HTB2 240430-38-0, HTB 1 (copper braze) 240430-39-1, HTB3 (copper braze) 240430-40-4, HTB4
(braze; interfacial reactions in joining of Si3N4 ceramics with CuNiTiB paste brazing filler metals)
IT 12033-89-5, Silicon nitride (Si3N4), uses
(ceramics; interfacial reactions in joining of Si3N4 ceramics with CuNiTiB paste brazing filler metals)
RE CITED REFERENCES
(1) Bao, F; Trans of the China Welding Institution 1990, V11, P200 HCA
(2) Kim, D; J Mater Sci 1991, V26, P3223 HCA
(3) Loehman, R; J Amer Ceram Soc 1990, V73, P552 HCA
(4) Miedema, A; Calphad 1977, V1, P353
(5) Naka, M; Trans of JWRI 1987, V16, P83 HCA
(6) Nakao, Y; Trans of the Japan Welding Society 1989, V20, P66 HCA
(7) Nishino, T; Welding International 1992, V6, P600
(8) Pan, W; J Mater Sci 1994, V29, P1436
(9) Scott, P; J Mater Sci 1975, V10, P1833 HCA
(10) Sugnuma, K; Joining of Ceramics 1990, P122
(11) Wan, C; J Mater Sci Technol 1996, V12, P219 HCA
(12) Xian, A; J Mater Sci 1990, V25, P4483 HCA
(13) Xiong, H; China Welding 1996, V5(2), P102 HCA
OSC.G 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)

L46 ANSWER 7 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 129:234117 HCA Full-text
OREF 129:47567a,47570a
TI Praxis-oriented development of brazing filler metal
AU Bach, Fr.-W.; Steffens, H.-D.; Meininghaus, T.; Mohwald, K.; Berthold, M.
CS Dortmund, Germany
SO DVS-Berichte (1998), 192(Hart- und Hochtemperaturloeten und Diffusionsschweissen), 48-51
CODEN: DVSBA3; ISSN: 0418-9639
PB Verlag fuer Schweissen und Verwandte Verfahren DVS-Verlag
DT Journal
LA German
AB As the no. of industrial inventions and new approaches to joining problems increase, the demand for the practical solns. become obvious. The following work deals with two praxis oriented examples of joining technol. In the first case massive ZrO2 ceramic knives for household use are to be replaced by a DIN 1.4034 metal shaft with a brazed ceramic knife-edge. The second example reveals a possible way of brazing DIN 1.2344 and 1.2082 austenitic stainless steel at low temp. by means of TLP-bonding (transient liq. phase) using Cu-20Ni and Cu-16Ni-20% Zn.
IT 11122-98-8
(braze filler; development of brazing filler metal for joining dissimilar stainless steels)
RN 11122-98-8 HCA

CN Copper alloy, base, Cu 80,Ni 20 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	80	7440-50-8
Ni	20	7440-02-0

CC 56-9 (Nonferrous Metals and Alloys)
ST zirconia ceramic knife brazing steel handle; stainless steel transient liq phase brazing
IT Brazes
      Brazing
        (development of brazing filler metal for joining zirconia knife blades to steel handles and for dissimilar stainless steels)
IT Ceramics
        (zirconia; development of brazing filler metal for joining zirconia knife blades to steel handles)
IT 11122-98-8
        (braze filler; development of brazing filler metal for joining dissimilar stainless steels)
IT 64447-03-6, L-SnAg5
        (braze filler; development of brazing filler metal for joining zirconia knife blades to steel handles)
IT 212688-47-6, Copper 64, nickel 16, zinc 20
        (development of brazing filler metal for joining dissimilar stainless steels)
IT 12741-56-9, DIN 1.2344 37241-55-7, DIN 1.2082
        (development of brazing filler metal for joining dissimilar stainless steels)
IT 1314-23-4, Zirconia, processes
        (development of brazing filler metal for joining zirconia knife blades to steel handles)
IT 137060-30-1, L-AgIn1Ti1 212835-84-2, L-AgCuIn13 212835-85-3, L-Ag72CuTi3
        (development of brazing filler metal for joining zirconia knife blades to steel handles)
RE CITED REFERENCES
(1) Anon; Degussa - Technik die verbindet 1996
(2) Anon; Handbuch uber Zusatzwerkstoffe zum Schweien 1996
(3) Mohwald, K; Diss, Universitat Dortmund 1996
(4) Steffens, H; Bericht zum Vorhaben, Gelotete Keramik-Metall-Verbunde fur Schneidwaren 1997
(5) Steffens, H; Bericht zum Vorhaben, Untersuchungen zum isothermen Loten von austenitformgeharteten Stahlen mit Verbundlot auf Kupferbasis

L46 ANSWER 8 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 128:64473 HCA Full-text
OREF 128:12563a,12566a
TI Joining of Si3N4 to 1.25Cr0.5Mo steel using rapidly solidified CuNiTiB foils as brazing filler metals

AU Wan, C. G.; Xiong, H. P.; Zhou, Z. F.
CS Department Materials Science Engineering, Jilin University Technology, Changchun City, Peop. Rep. China
SO Welding Research (Miami) (1997), (Dec.), 522s-525s
Published in: Weld. J. (Miami), 76(12)
CODEN: WERSA3; ISSN: 0096-7629
PB American Welding Society
DT Journal
LA English
AB The joining of Si3N4 to 1.25Cr0.5Mo steel using a newly developed CuNiTiB alloy in the form of rapidly solidified foils as the brazing filler metal was studied. The max. joint strength (three point bend) at room temp. is 261 MPa. The value was maintained until 723 K (268 MPa). As the test temp. is raised, the joint strengths decreased. By means of a scanning electron microscope with a wave dispersive spectrometer, the paper studied the interfacial metallurgical behavior between the brazing filler metal and Si3N4 or the interlayers and its effects on the joint strength. When the nickel (Ni) platelet is employed as the buffer layer next to the Si3N4, it is difficult to improve the joint strength, but if the steel platelet is employed as the interlayer instead of Ni, the joint strength can be greatly augmented.
IT 200429-29-4, HTB2
(joining of Si3N4 to 1.25Cr0.5Mo steel using rapidly solidified CuNiTiB foils as brazing filler metals)
RN 200429-29-4 HCA
CN Copper alloy, base, Cu,Ni,Ti (HTB2) (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	52 - 83	7440-50-8
Ni	4.8 - 25	7440-02-0
Ti	13 - 23	7440-32-6

CC 55-9 (Ferrous Metals and Alloys)
Section cross-reference(s): 57
ST silicon nitride brazing steel foil filler
IT Brazes
(joining of Si3N4 to 1.25Cr0.5Mo steel using rapidly solidified CuNiTiB foils as brazing filler metals)
IT Brazing
(of Si3N4 to 1.25Cr0.5Mo steel using rapidly solidified CuNiTiB foils as brazing filler metals)
IT 7440-02-0, Nickel, uses
(interlayer; joining of Si3N4 to 1.25Cr0.5Mo steel using rapidly solidified CuNiTiB foils as brazing filler metals)
IT 12033-89-5, Silicon nitride si3n4, processes 37202-76-9, 1.25Cr0.5Mo
(joining of Si3N4 to 1.25Cr0.5Mo steel using rapidly solidified CuNiTiB foils as brazing filler metals)
IT 200429-29-4, HTB2
(joining of Si3N4 to 1.25Cr0.5Mo steel using rapidly solidified

CuNiTiB foils as brazing filler metals)
RE CITED REFERENCES
(1) Katayama, K; SAE 861128:1 1986
(2) Miedema, A; Calphad 1977, V1, P353
(3) Nicholas, M; Joining of Ceramics 1990, P73 HCA
(4) Suganuma, K; Joining of Ceramics 1990, P173 HCA
(5) Yamato, T; J Mater Sci 1990, P2188
(6) Zhou, Y; Mater Sci Technol 1991, V7(Sept), P863

L46 ANSWER 9 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 125:282580 HCA Full-text
OREF 125:52713a,52716a
TI Ceramics-metal joined products by brazing with Ni-Cu alloys
IN Myama, Katsumi; Ito, Masaya; Narita, Toshio
PA Ngk Spark Plug Co, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08208343	A	19960813	JP 1994-79495	19940324
	JP 3365575	B2	20030114		
PRAI	JP 1994-79495		19940324		

AB In the products contg. joining reaction layers on the ceramics side and filler layers on the metals side, the filler layers contain ≤15 wt.% Ti, 5-25 wt.% Pd, and balance Ni and Cu. The joints have high strength at high temp. and are esp. suitable for automobile parts and machine parts.
IT 182626-62-6 182626-70-6 182626-73-9
182626-78-4 182626-80-8 182626-81-9
(braze; ceramics-metals joined products brazed with Ni-Cu-Pd-Ti alloys for high-temp. strength)
RN 182626-62-6 HCA
CN Copper alloy, base, Cu 0-83,Ni 0-83,Pd 11,Ti 6.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	0 - 83	7440-50-8
Ni	0 - 83	7440-02-0
Pd	11	7440-05-3
Ti	6.5	7440-32-6

RN 182626-70-6 HCA
CN Copper alloy, base, Cu 0-88,Ni 0-88,Pd 6.4,Ti 5.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number

Component	Component Percent	Component Registry Number
Cu	0 - 88	7440-50-8
Ni	0 - 88	7440-02-0
Pd	6.4	7440-05-3
Ti	5.5	7440-32-6

RN 182626-73-9 HCA
CN Copper alloy, base, Cu 0-79,Ni 0-79,Pd 16,Ti 5.6 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	0 - 79	7440-50-8
Ni	0 - 79	7440-02-0
Pd	16	7440-05-3
Ti	5.6	7440-32-6

RN 182626-78-4 HCA
CN Copper alloy, base, Cu 0-85,Ni 0-85,Pd 13,Ti 2.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	0 - 85	7440-50-8
Ni	0 - 85	7440-02-0
Pd	13	7440-05-3
Ti	2.5	7440-32-6

RN 182626-80-8 HCA
CN Copper alloy, base, Cu 0-84,Ni 0-84,Pd 12,Ti 3.6 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	0 - 84	7440-50-8
Ni	0 - 84	7440-02-0
Pd	12	7440-05-3
Ti	3.6	7440-32-6

RN 182626-81-9 HCA
CN Copper alloy, base, Cu 0-81,Ni 0-81,Pd 14,Ti 5.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	0 - 81	7440-50-8
Ni	0 - 81	7440-02-0

Pd	14	7440-05-3
Ti	5.2	7440-32-6

IPCI C04B0037-02 [ICM,6]; B23K0001-19 [ICS,6]
IPCR B23K0001-19 [I,C*]; B23K0001-19 [I,A]; C04B0037-02 [I,C*]; C04B0037-02 [I,A]
CC 56-9 (Nonferrous Metals and Alloys)
Section cross-reference(s): 57
ST braze nickel copper joining ceramic metal; titanium palladium nickel copper braze
IT Ceramic materials and wares
(ceramics-metals joined products brazed with Ni-Cu-Pd-Ti alloys for high-temp. strength)
IT Joints, mechanical
(brazed, ceramics-metals joined products brazed with Ni-Cu-Pd-Ti alloys for high-temp. strength)
IT Solders
(brazes, ceramics-metals joined products brazed with Ni-Cu-Pd-Ti alloys for high-temp. strength)
IT 182626-60-4 182626-62-6 182626-65-9 182626-66-0 182626-68-2 182626-70-6 182626-72-8 182626-73-9 182626-75-1 182626-77-3 182626-78-4 182626-80-8 182626-81-9 182626-82-0
(braze; ceramics-metals joined products brazed with Ni-Cu-Pd-Ti alloys for high-temp. strength)
IT 7440-02-0, Nickel, uses 7440-33-7, Tungsten, uses 12033-89-5, Silicon nitride (Si3N4), uses 39345-19-2, SUS 403
(ceramics-metals joined products brazed with Ni-Cu-Pd-Ti alloys for high-temp. strength)

L46 ANSWER 10 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 120:21661 HCA Full-text
OREF 120:3905a,3908a
TI Electronic components with lead terminals
IN Hosoi, Yoshihiro; Nishida, Motoi
PA Kyocera Corp, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 05222472	A	19930831	JP 1992-28630	19920215
PRAI JP 1992-28630		19920215		

AB The title components comprise an outer lead terminal comprising a Cu alloy contg. 0.5-30.0 wt.% Ni on aninsulated substrate with a metalized wiring layer via a braze. A plated metal layer was obtained on the terminal with good adhesion and corrosion resistance.
IT 11122-98-8 151878-14-7 151878-15-8 151878-16-9

(lead terminal, plating on, with good adhesion and corrosion resistance, for electronic components)

RN 11122-98-8 HCA
CN Copper alloy, base, Cu 80,Ni 20 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	80	7440-50-8
Ni	20	7440-02-0

RN 151878-14-7 HCA
CN Copper alloy, base, Cu 79,Ni 20,Zn 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	79	7440-50-8
Ni	20	7440-02-0
Zn	1	7440-66-6

RN 151878-15-8 HCA
CN Copper alloy, base, Cu 78,Ni 20,Fe 1,Zn 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	78	7440-50-8
Ni	20	7440-02-0
Fe	1	7439-89-6
Zn	0.5	7440-66-6

RN 151878-16-9 HCA
CN Copper alloy, base, Cu 78,Ni 20,Mn 1,Zn 1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	78	7440-50-8
Ni	20	7440-02-0
Mn	1	7439-96-5
Zn	1	7440-66-6

IPCI C22C0009-00 [ICM,5]; H01L0023-48 [ICS,5]
IPCR C22C0009-00 [I,C*]; C22C0009-00 [I,A]; H01L0023-48 [I,C*]; H01L0023-48 [I,A]
CC 76-14 (Electric Phenomena)
Section cross-reference(s): 56
IT 11101-30-7 11115-20-1 **11122-98-8** 12621-49-7 12621-51-1 12787-57-4 68295-04-5 108659-08-1 151878-12-5 151878-13-6 **151878-14-7** **151878-15-8** **151878-16-9**

(lead terminal, plating on, with good adhesion and corrosion resistance, for electronic components)

L46 ANSWER 11 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 119:165180 HCA Full-text
OREF 119:29497a,29500a
TI Clad steel brazing sheets for decreased water-side corrosion in oil-cooling apparatus
IN Ishida, Akinori; Yoshida, Zenichi; Ooshima, Masao; Myake, Yasuhiko; Oonuki, Mitsuaki
PA Hitachi Cable, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 05154688	A	19930622	JP 1991-349040	19911206
PRAI JP 1991-349040		19911206		

AB The brazing sheets have the steel core clad with Cu on 1 side, and with Cu-(1.5-30%) Ni alloy on the other side. The clad sheets are used in manuf. of oil-cooling app. by brazing, followed by heat treatment to form a diffusion layer at the Cu-Ni alloy-steel interface, and using the Cu-Ni alloy on the water side.
IT 150101-38-5
(steel clad with, brazing of, for manuf. of oil-cooling app.)
RN 150101-38-5 HCA
CN Copper alloy, base, Cu 70-98,Ni 1.5-30 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	70 - 98	7440-50-8
Ni	1.5 - 30	7440-02-0

CC 55-9 (Ferrous Metals and Alloys)
Section cross-reference(s): 61
ST copper clad steel brazing heat exchanger; oil cooling app clad steel brazing; water cooling app clad steel brazing; nickel copper clad steel brazing
IT Cooling apparatus
(for oil, manuf. of brazed, from steel sheet clad with copper and copper-nickel alloy)
IT Cladding
(of steel, brazing after, for manuf. of oil-cooling app.)
IT Soldering
(brazing, of clad steel sheets, for manuf. of oil-cooling app.)
IT 12597-69-2, Steel, uses

(clad, copper and copper-nickel alloy on, for manuf. of oil-cooling app. by brazing)
IT 12597-69-2
(soldering, brazing, of clad steel sheets, for manuf. of oil-cooling app.)
IT 7440-50-8, Copper, uses 150101-38-5
(steel clad with, brazing of, for manuf. of oil-cooling app.)

L46 ANSWER 12 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 106:142520 HCA Full-text
OREF 106:23195a,23198a
TI Composite for ornaments
IN Tsuji, Hitoshi; Kawaguchi, Seiichi
PA Tanaka Noble Metal Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61233532	A	19861017	JP 1985-74892	19850409
PRAI JP 1985-74892		19850409		

AB A composite for ornaments is prepd. by coating Ti or its alloy with Sn and cladding successively the Sn-coated substrate with a Cu-Ni alloy and a corrosion-resistant material. Thus, a Ti-3Al-2%V alloy bar (diam. 48 mm) coated with 5-μm Sn and successively clad with a Cu-20% Ni alloy and a Au-12.5Ag-12.5%Cu alloy was drawn into a rod of 2.6-mm-diam. and consisting of a Ti-alloy core, a 0.002-mm-thick Cu-Ni-alloy intermediate layer, and a 0.17-mm-thick Au-Ag-Cu-alloy outer cladding . The av. fracture strength of a laminate of a 2 brazed 0.77-mm-thick cold-rolled sheets from the composite rod was 21 kg/mm2 vs. 8.5 kg/mm2 for a brazed laminate of a Cu-Ni alloy-clad Ti-3Al-2%V alloy composite.
IT 11122-98-8
(tin-coated titanium alloy clad with, for ornaments)
RN 11122-98-8 HCA
CN Copper alloy, base, Cu 80,Ni 20 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	80	7440-50-8
Ni	20	7440-02-0

IPCI B32B0015-01 [ICM,4]; B23K0001-12 [ICS,4]; B23K0020-00 [ICS,4]; C23C0028-02 [ICA,4]
IPCR C23C0028-02 [I,C*]; C23C0028-02 [I,A]; B23K0020-00 [I,C*]; B23K0020-00 [I,A]; B32B0015-01 [I,C*]; B32B0015-01 [I,A]
CC 56-9 (Nonferrous Metals and Alloys)
IT 11122-98-8 97918-36-0

(tin-coated titanium alloy clad with, for ornaments)

L46 ANSWER 13 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 105:28465 HCA Full-text
OREF 105:4707a,4710a
TI Alloy composites for frames of eyeglasses
IN Tsuji, Hitoshi; Kawaguchi, Seiichi
PA Tanaka Noble Metal Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61035419	A	19860219	JP 1984-157055	19840727
PRAI JP 1984-157055		19840727		

AB A Ti or Ti-alloy core is clad with a layer of Cu-Ni alloy beneath a corrosion-resistant outer layer for high-strength frame of eyeglasses. Thus, a Ti-3Al-2% V alloy wire (diam. 2.6 mm) was coated with 0.002 mm film of Cu-20% Ni and 0.17 mm thick Au alloy (18 karat) layer; rolled to strip 0.75 mm thick; and brazed with Ag-28% Cu alloy. Av. tensile strength of the product was 65 kg/mm2.
IT 11122-98-8
(coating with, of titanium alloy, in eyeglasses frame manuf.)
RN 11122-98-8 HCA
CN Copper alloy, base, Cu 80,Ni 20 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	80	7440-50-8
Ni	20	7440-02-0

IPCI G02C0005-14 [ICM,4]; B32B0015-01 [ICS,4]
IPCR B32B0015-01 [I,C*]; B32B0015-01 [I,A]; G02C0005-00 [I,C*]; G02C0005-00 [I,A]; G02C0005-14 [I,C*]; G02C0005-14 [I,A]
CC 56-6 (Nonferrous Metals and Alloys)
IT 12665-05-3
(brazing with, of titanium alloy for eyeglasses frames)
IT 11122-98-8
(coating with, of titanium alloy, in eyeglasses frame manuf.)

L46 ANSWER 14 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 104:228963 HCA Full-text
OREF 104:36255a,36258a
TI Copper-nickel alloys for brazed articles
IN Mahulikar, Deepak; Shapiro, Eugene
PA Olin Corp., USA
SO U.S., 5 pp.
CODEN: USXXAM

DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4578320	A	19860325	US 1984-587750	19840309
	CA 1247505	A1	19881227	CA 1985-473821	19850207
PRAI	US 1984-587750	A	19840309		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A Cu-Ni alloy contg. Mn and P has high-temp. ductility with a low grain growth and is suitable for brazing. The Cu alloy contains Ni 5-45, Mn 0.4-1.1, and P 0.003-0.04%. The cast alloy is processed by conventional cold rolling to 10-80% redn. with intermediate anneals. The alloy has grain size of <0.5 mm (av. .apprx.0.2 mm) after heating to 1065-1125°. Thus, a Cu-alloy ingot contg. Ni 21, Mn 0.75, and P 0.015% was soaked at 980° for 40 min, hot rolled to 0.4-in. thickness, cold rolled to 0.020 in., and annealed at 700° for 1 h. The Cu alloy had elongation >9% at 725° and >8% at 580°, compared with 1 and 2% for Cu-20 Ni-0.3 Mn-0.002% P alloy.

IT 102485-28-9 102485-30-3
(brazing with, hot ductility by, manganese and phosphorus control for)

RN 102485-28-9 HCA

CN Copper alloy, base, Cu 54-95,Ni 5-45,Mn 0.4-1.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	54 - 95	7440-50-8
Ni	5 - 45	7440-02-0
Mn	0.4 - 1.1	7439-96-5

RN 102485-30-3 HCA

CN Copper alloy, base, Cu 78-80,Ni 20-21,Mn 0.3-0.8 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	78 - 80	7440-50-8
Ni	20 - 21	7440-02-0
Mn	0.3 - 0.8	7439-96-5

CC 56-3 (Nonferrous Metals and Alloys)

IT Soldering
(brazing, copper-nickel alloys for)

IT 102485-28-9 102485-29-0 102485-30-3
(brazing with, hot ductility by, manganese and phosphorus control for)

IT 7723-14-0, properties
(copper-nickel alloys doped with, for brazed joints with hot ductility)

RE CITED REFERENCES
(1) Anon; US 1525047 A HCA
(2) Anon; US 2074604 A HCA
(3) Anon; US 2144279 A HCA
(4) Anon; US 2215905 A HCA
(5) Anon; DE 2311400 A1
(6) Anon; US 3728106 A
(7) Anon; US 4169729 A HCA
(8) Anon; JP 56116846 A HCA
(9) Anon; JP 57043950 A HCA
OSC.G 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L46 ANSWER 15 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 104:54967 HCA Full-text
OREF 104:8797a,8800a
TI Clad brazing sheets
IN Kashiwagi, Kozo
PA Tanaka Noble Metal Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 2 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60166194	A	19850829	JP 1984-20642	19840207
PRAI	JP 1984-20642		19840207		

AB A Cu-(3-50)% Ni alloy material is clad with a Ag-Cu alloy having m.p. 750-1000° to prep. a clad brazer. Thus, a Cu-10% Ni sheet was clad with a Ag-7.5% Cu at 1:1 ratio to a 0.1 mm thick brazing sheet to use brazing Ti and Ni, Zr and Fe, Ti and Cu, and Ti and SUS 304 at 930°.
IT 11122-98-8
(cladding of, on copper-silver-nickel alloy sheet, for brazing sheet manuf.)
RN 11122-98-8 HCA
CN Copper alloy, base, Cu 80,Ni 20 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	80	7440-50-8
Ni	20	7440-02-0

CC 56-3 (Nonferrous Metals and Alloys)
Section cross-reference(s): 55
ST brazing sheet ferrous nonferrous metal; copper nickel cladding silver braze; titanium nickel brazing sheet; zirconium iron brazing sheet; copper titanium brazing sheet; stainless steel titanium brazing sheet
IT Solders

(brazes, clad, for brazing ferrous-nonferrous metal and ferrous-ferrous metals, copper-nickel and silver-copper clad sheets for)
IT 7440-67-7, uses and miscellaneous
(brazing of, on iron, clad brazing sheets for)
IT 7440-32-6, uses and miscellaneous
(brazing of, on nickel and copper and stainless steel, clad brazing sheets for)
IT 7440-02-0, uses and miscellaneous 7440-50-8, uses and miscellaneous 11109-50-5
(brazing of, on titanium, clad brazing sheets for)
IT 37350-65-5 82990-46-3 100110-15-4 100110-16-5 100110-17-6
(cladding of, on copper-nickel alloy sheet, for brazing sheet manuf.)
IT 11115-20-1
(cladding of, on copper-silver alloy sheet, for brazing sheet manuf.)
IT 12621-43-1
(cladding of, on copper-silver base alloy sheet, for brazing sheet manuf.)
IT 11122-98-8
(cladding of, on copper-silver-nickel alloy sheet, for brazing sheet manuf.)
OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L46 ANSWER 16 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 101:58572 HCA Full-text
OREF 101:9047a,9050a
TI Kinetics of the spreading of copper-nickel melts on a solid iron surface
AU Sivkov, M. N.; Zakharova, T. V.; Popel, S. I.; Korchemkin, A. V.
CS Ural. Politekh. Inst., Sverdlovsk, USSR
SO Izvestiya Vysshikh Uchebnykh Zavedenii, Chernaya Metallurgiya (1984), (4), 1-5
CODEN: IVUMAX; ISSN: 0368-0797
DT Journal
LA Russian
AB The kinetics of spreading of a Cu-Ni alloy (≤40 at.% Ni) melt on a solid Fe substrate at 1573 K was studied in relation to an investigation of brazing processes, esp. wettability and adhesion of binding alloys. Tests were made in a special chamber with the use of Cu V-3, Ni N-000, and a high-polished Fe surface. The presence of a halo in front of the spreading alloy, the width of which decreased with increasing Ni amt., was revealed by rapid filming. The initial rates of spreading decreased with increasing Ni content, due to the decrease of traction force at the wettability perimeter. The surface tension, wettability angles, and adhesion of melts to Fe were detd.
IT 85169-53-5
(spreading of molten, on solid iron surface, kinetics of, brazing in relation to)

RN 85169-53-5 HCA
CN Copper alloy, base, Cu 62-100,Ni 0-38 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	62 - 100	7440-50-8
Ni	0 - 38	7440-02-0

CC 55-9 (Ferrous Metals and Alloys)
ST copper nickel melt spreading brazing; iron surface brazing melt spreading; wettability iron copper nickel melt
IT Soldering
(brazing, spreading of copper-nickel melt on iron substrate in relation to, kinetics of)
IT 85169-53-5
(spreading of molten, on solid iron surface, kinetics of, brazing in relation to)
IT 7439-89-6, properties
(wettability of, by copper-nickel melt, brazing in relation to)

L46 ANSWER 17 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 94:144200 HCA Full-text
OREF 94:23553a,23556a
TI The wetting of alumina by copper alloyed with titanium and other elements
AU Nicholas, M. G.; Valentine, T. M.; Waite, M. J.
CS Mater. Dev. Div., AERE, Harwell/Oxon, UK
SO Journal of Materials Science (1980), 15(9), 2197-206
CODEN: JMTSAS; ISSN: 0022-2461
DT Journal
LA English
AB The wetting of Al2O3 by ternary alloys of Cu, Ti and Al, Ga, Au, In, Ni, or Ag was investigated using sessile drop tests in vacuum at 1050-1250°. Substantial addns. of Ti induce Cu to wet the Al2O3, due to the formation of Ti-rich reaction product at the alloy/ceramic interface, but the concn. of Ti can be reduced by adding moderately beneficial, and of Ga or Ni of negligible benefit or detrimental. The correlation of the exptl. wetting with the surface energy and Ti soly. for the ternary alloying elements provides a basis for the rational development of reactive metal brazes for joining unmetallized ceramics.
IT 76847-00-2 76847-02-4 76847-03-5
(wetting by, of aluminum oxide, brazes for ceramics in relation to)
RN 76847-00-2 HCA
CN Copper alloy, base, Cu 70-80,Ni 20-30 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number

Cu	70	-	80	7440-50-8
Ni	20	-	30	7440-02-0

RN 76847-02-4 HCA
CN Copper alloy, base, Cu 61-90,Ni 5-34,Ti 5 (9CI) (CA INDEX NAME)

Component	Component Percent			Component Registry Number
Cu	61	-	90	7440-50-8
Ni	5	-	34	7440-02-0
Ti	5			7440-32-6

RN 76847-03-5 HCA
CN Copper alloy, base, Cu 70-85,Ni 5-20,Ti 10 (9CI) (CA INDEX NAME)

Component	Component Percent			Component Registry Number
Cu	70	-	85	7440-50-8
Ni	5	-	20	7440-02-0
Ti	10			7440-32-6

CC 57-7 (Ceramics)
Section cross-reference(s): 56
IT Ceramic materials and wares
(wetting of, by copper alloys contg. titanium, **brazes** for ceramics in relation to)
IT Solders
(**brazes**, for ceramics, aluminum oxide wetting by copper alloys contg. titanium in relation to)
IT 7440-32-6, properties 7440-55-3, properties
(in wetting, of aluminum oxide by copper alloys contg. titanium, **brazes** for ceramics in relation to)
IT 1344-28-1, properties
(wettability of, by copper alloys contg. titanium, **brazes** for ceramics in relation to)
IT 76846-83-8 76846-84-9 76846-85-0 76846-86-1 76846-87-2
76846-88-3 76846-89-4 76846-90-7 76846-91-8 76846-92-9
76846-93-0 76846-94-1 76846-95-2 76846-96-3 76846-97-4
76846-98-5 76846-99-6 76847-00-2 76847-01-3
76847-02-4 76847-03-5 76847-04-6 77062-00-1
(wetting by, of aluminum oxide, **brazes** for ceramics in relation to)
OSC.G 32 THERE ARE 32 CAPLUS RECORDS THAT CITE THIS RECORD (33 CITINGS)

L46 ANSWER 18 OF 18 HCA COPYRIGHT 2010 ACS on STN
AN 84:49031 HCA Full-text
OREF 84:8039a,8042a
TI Diffusion **brazing** of niobium and tantalum to titanium

AU Chernitsyn, A. I.; Kufaikin, A. Ya.; Rastorguev, L. N.; Lozeev, G. E.
CS USSR
SO Svarochnoe Proizvodstvo (1975), (7), 26-8
CODEN: SVAPAI; ISSN: 0491-6441
DT Journal
LA Russian
AB Diffusion brazing of 5VMTs [39391-98-5] Nb and TV10 [39369-62-5] Ta to TS7 [57895-38-2] Ti was investigated. A Cu brazing alloy contg. 10-30% Ni was deposited on Ti. Specimens were brazed at 1035°, 10-3 torr, 5 kg/mm2 stress, and holding time 45 min. Brazed joints of 5VMTs with TS7 were mech. tested at ≤1200°. Below 600°, fracture occurred in 5VMTs. At 600-900°, fracture occurred at the interface. Above 900°, fracture occurred in TS7. Stress application at higher temps. increased the pore size. Formation, growth, and elimination of pores were discussed.
IT 55702-83-5
(brazing of niobium and tantalum alloys to titanium alloys with, by diffusion)
RN 55702-83-5 HCA
CN Copper alloy, base, Cu 70-90,Ni 10-30 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	70 - 90	7440-50-8
Ni	10 - 30	7440-02-0

CC 56-9 (Nonferrous Metals and Alloys)
ST niobium diffusion brazing titanium; tantalum diffusion brazing titanium
IT Soldering
(brazing, of niobium and tantalum alloys to titanium alloys by diffusion)
IT 55702-83-5
(brazing of niobium and tantalum alloys to titanium alloys with, by diffusion)
IT 57895-38-2
(brazing of, to niobium and tantalum alloys by diffusion)
IT 39369-62-5 39391-98-5
(brazing of, to titanium alloys by diffusion)